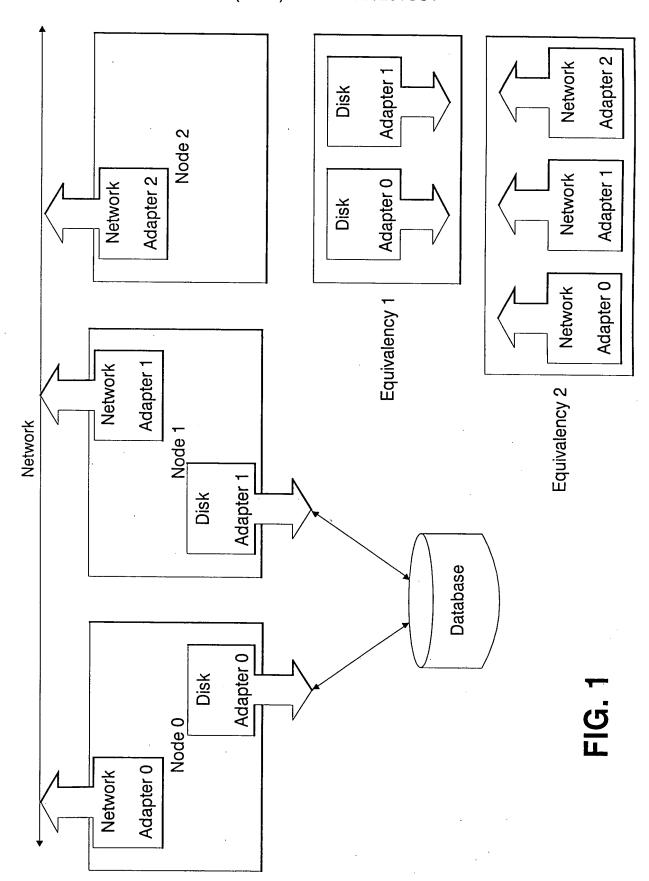
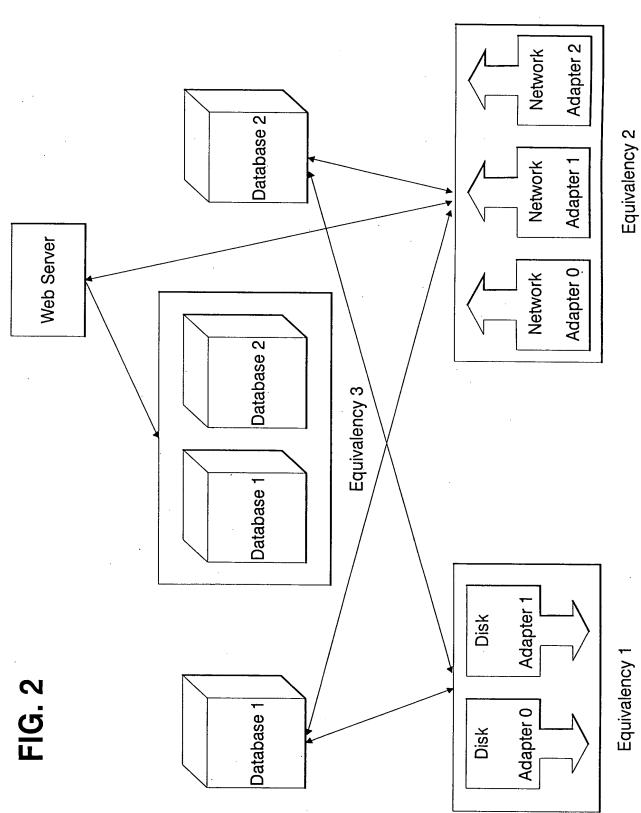
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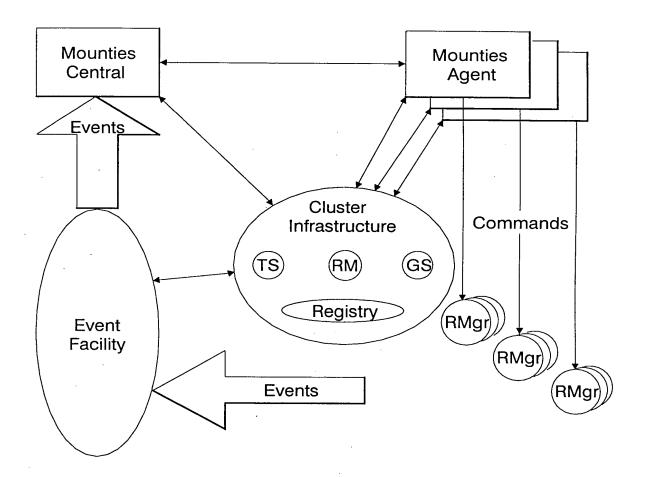


FIG. 3

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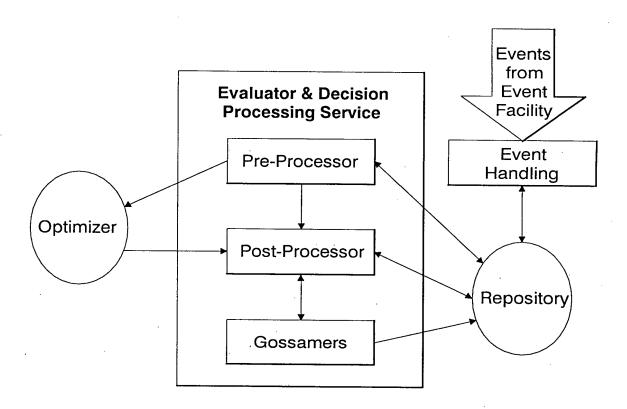
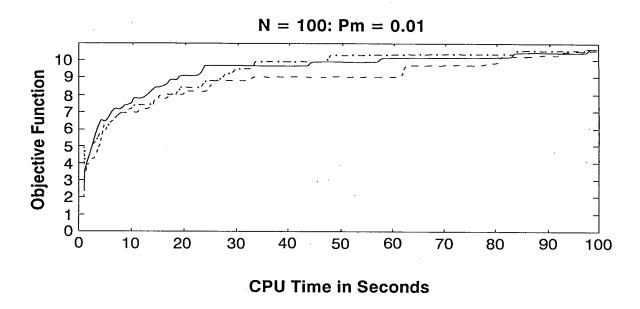


FIG. 4

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The Performance of the Algorithm on a Synthetic Example

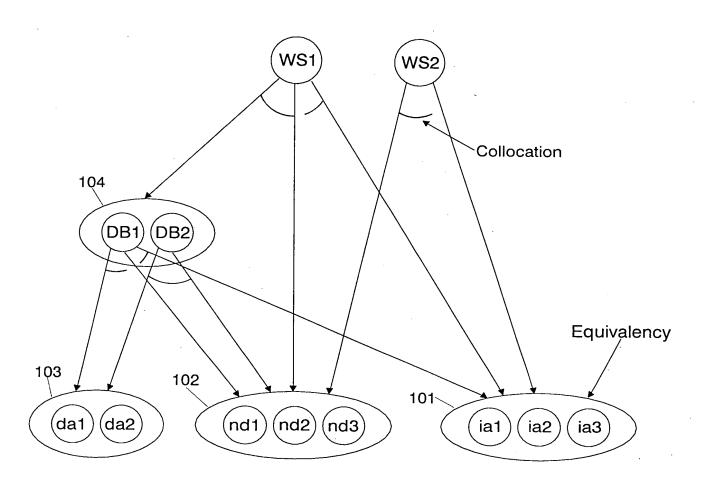
FIG. 5

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```
1. Check all vertices and mark every low-level resource. The marked vertices form Frontier(1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        are found to be fractional, define all of them to be integer variables.
                                                                                                                                                                                                                                                                                                                                                                                                                                   3.3. If more than k resources are marked, unmark at random all except k
                                                                                                                                                                                                    2.1. Mark all resources not already included in some frontier.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     if any of the variables associated with v\left(z_{n}, l_{v_{l}} \text{ etc}\right)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              convert it into a fixed value equal to its current value.
                                                                                                                                                                                                                                                                                                                                                                         some u \notin Frontier(1) \cup Frontier(2) \cup ... \cup Frontier(i).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4. For every variable defined as an integer variable,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.4. The marked resources constitute Frontier (i+1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.5.1. For every resource v in Frontier (i+1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Until every vertex has been included in some frontier.
                                                                                                                                                                                                                                                                                                               3.2.1 unmark v if dep (v,i) for some I contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Until no more fractional variable are found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.5.2. Solve the new ILP
                                                                                                                                                                                                                                                          3.2. For every resource v,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.5. Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5. i = i + 1;
                                                                                              2. Repeat
                                                1:
```

FIG. 6

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**FIG.** 7

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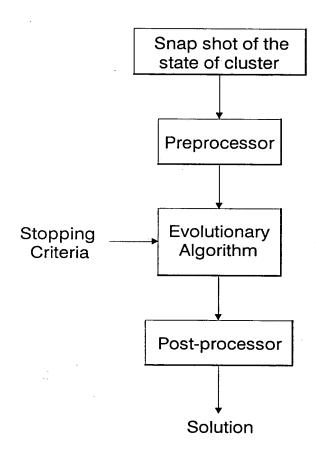


FIG. 8

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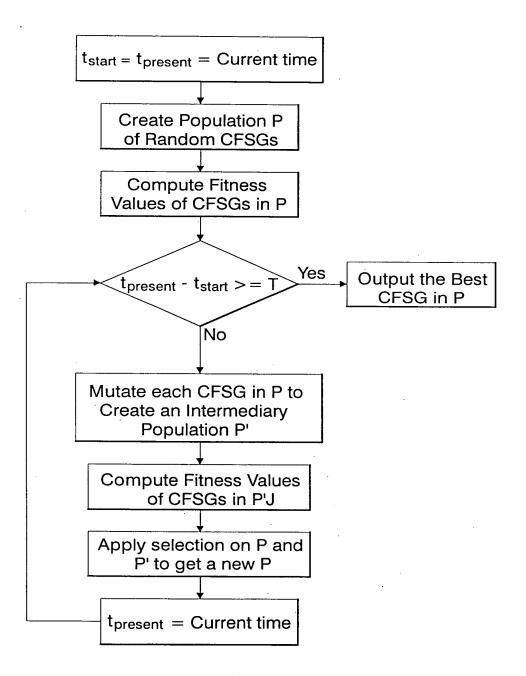


FIG. 9

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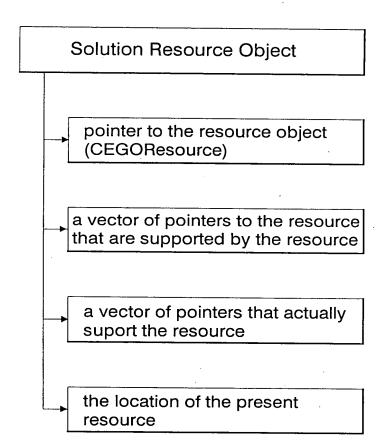


FIG. 10

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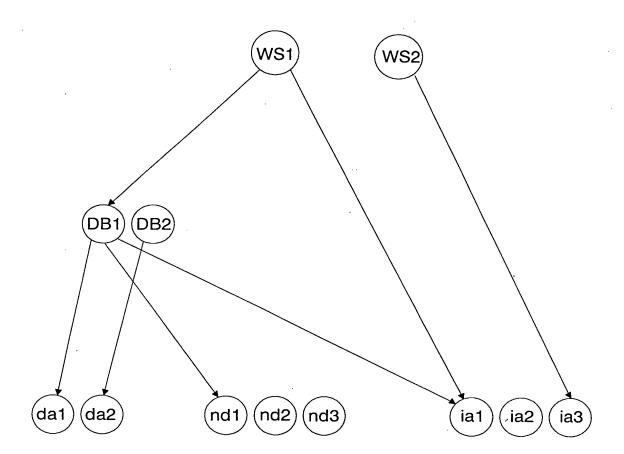


FIG. 11

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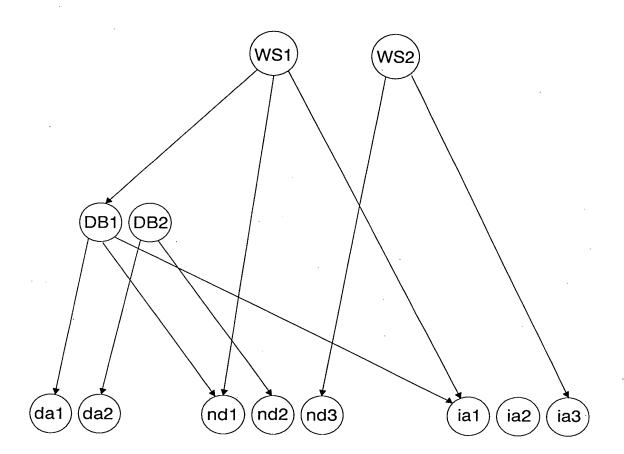


FIG. 12

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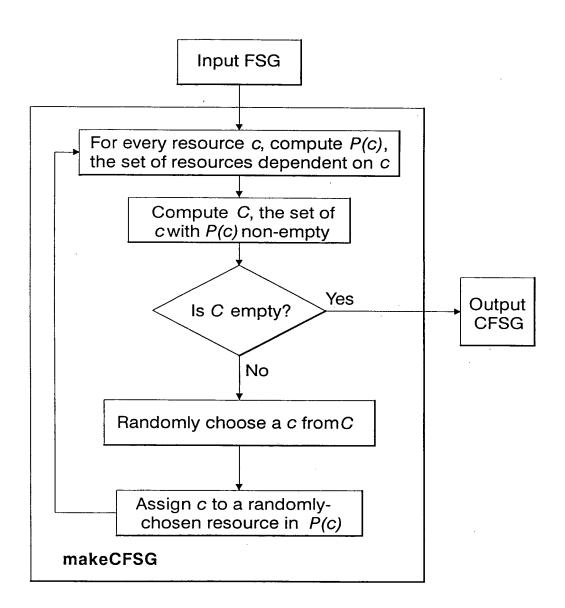


FIG. 13

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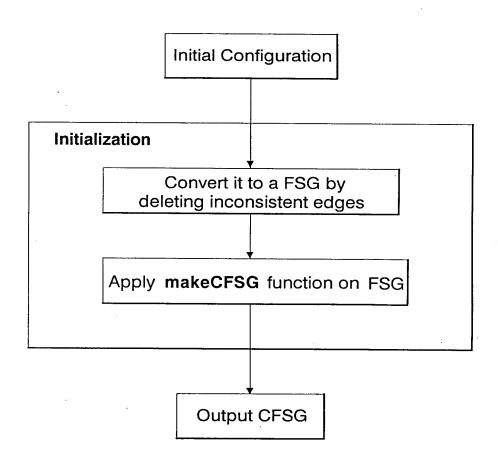
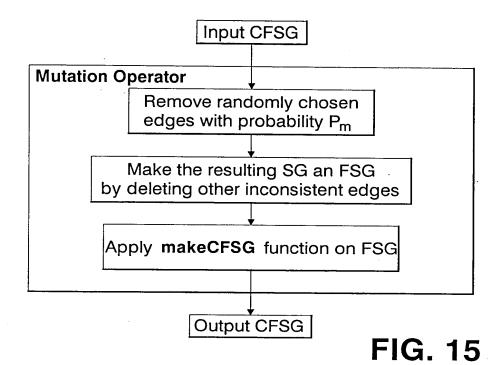


FIG. 14

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N = 100; Pm = 0.01**Objective Function CPU Time in Seconds** Performance of the Method

**FIG. 16** 

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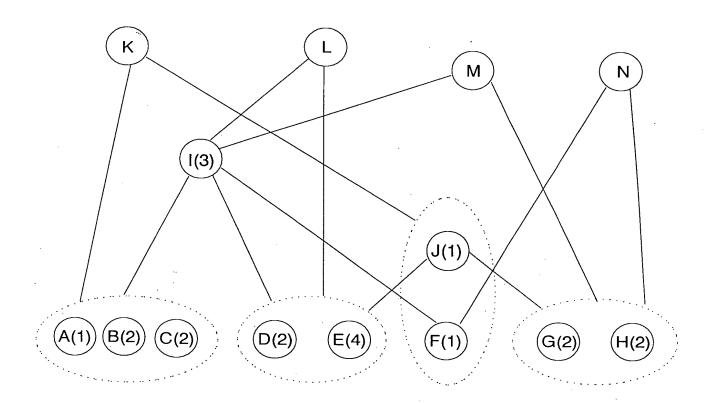
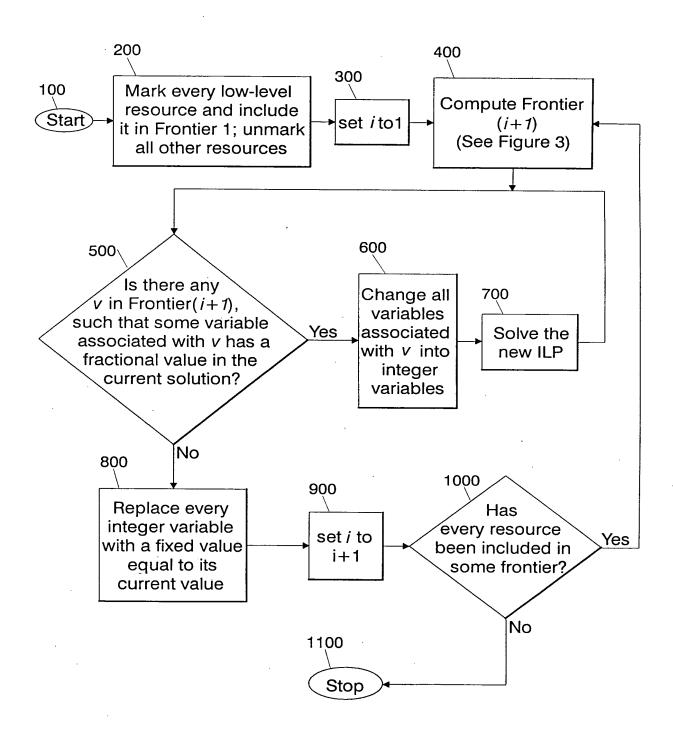


FIG. 17

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**FIG. 18** 

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